

REMARKS

The present Amendment and Response is intended to be fully responsive to all points of objections and/or rejections raised by the Examiner and is believed to place the application in condition for allowance. Applicants assert that the present invention is new, non-obvious and useful. Prompt reconsideration and allowance of the claims are respectfully requested.

Status of the Claims

Claims 1-10 are pending in the current application.

Claims 11- 20 have been newly added.

Applicants assert that the newly added claims 11- 20 are fully supported by the specification of record and add no new matter.

Remarks to Claim Rejections

Claim Rejections - 35 USC §102

The Office Action of October 19, 2009 rejected claims 1-7 and 10 under 35 U.S.C. §102(e) as being anticipated by Roesner et al. (US 2003/0132461, “Roesner”).

Applicants respectfully disagree.

Applicants understand that the examiner may be entitled to broadest reasonable interpretation of the claims. However, such interpretation of claims must be reasonable and not in contradiction with what is commonly known in the art, and in particular not in contradiction with what is specifically taught by the prior art.

For example, in an attempt to reject independent claims 1 and 2 of the present application, the Examiner tried to interpret element 105 (Figs. 1A-1C) of Roesner as a substrate, which is clearly not reasonable. Roesner teaches, specifically, that element 101 is a substrate and element 105 is a dialuminum trioxide layer deposited on substrate 101 by means of a suitable CVD method or a sputtering method or a vapor deposition method (paragraph [0062]). Therefore, element 105 is not a substrate, as will be appreciated by

any person skilled in the art, and the Examiner's interpretation of element 105 as being a substrate goes against what is commonly known in the art. Applicants assert that Roesner does not teach, suggest, or even imply a trench being formed in substrate 101, which is specifically required by independent claims 1 and 2.

Further for example, in an attempt to reject claim 3, the Examiner alleges that carbon nanotubes 108 of Roesner form an open cylinder structure. Applicants disagree. In Figs. 1A-1C, Roesner illustrates two separate holes 106 inside which carbon nanotubes 108 are grown upwardly. These two carbon nanotubes are not part of an open cylinder structure and do not by themselves form any open cylinder structure either. Thus it is respectfully submitted that prior art Roesner does not teach, suggest, or imply any open cylinder structure formed by carbon nanotubes 108 inside a trench, which is specifically required by claim 3 of the present invention.

In view of above, applicants respectfully submit that prior art references of record, in particular Roesner, does not teach, suggest, or imply distinctive features and elements of claims 1 and 2. Claims 1 and 2 are patentable.

Nevertheless, in order to advance prosecution of present application, Applicants have amended, without prejudice, independent claims 1 and 2 to further clarify and add distinctive features of the present invention. More specifically, amended claim 1 recites that the trench conductor is "surrounded by said multiple conductive nanotubes", and amended claim 2 recites that the trench dielectric is "directly underneath and in contact with said multiple carbon nanotubes".

Claims 3-7 and 10 depend from independent claim 1 to include all the distinctive features in addition to other distinguishing features and elements (such as those being discussed above with regard to claim 3). Claims 3-7 and 10 are patentable for at least the same reasons as being discussed above with regard to claim 1.

In view of the above, Applicants respectfully request that rejections of claims 1-7 and 10 made under 35 U.S.C. §102(e) be withdrawn.

Claim Rejections - 35 USC §103

The Office Action of October 19, 2009 rejected claim 8 as being unpatentable over Roesner, and rejected claim 9 as being unpatentable over Roesner in view of Yoshikazu Homma et al. (“Growth of suspended carbon nanotube networks on 100-nm scale silicon pillars”, Applied Physics Letters, Vol. 81, No. 12, Sept. 6, 2002, pp 2261-2263, “Homma”), both under 35 U.S.C. §103(a).

Applicants respectfully disagree.

Claims 9 and 8 depend from claims 1 and 2, respectively, to include all the distinct features of claims 1 and 2 as well as other distinguishing features and elements. Therefore, claims 8-9 are patentable for at least the same reasons as discussed above with regard to claims 1 and 2.

Moreover, in rejecting claim 8, the Examiner contends that it would have been obvious to modify Roesner’s device by forming substrate 105 coplanar with respect top surface of the trench dielectric 109 and the conductive carbon nanotubes 108. Applicants respectfully disagree. Applicants respectfully request that the Examiner provide factual documentary evidence, which is absent in the current Office Action, that may be considered as material support for the above obviousness assertion.

In view of the above, Applicants respectfully request that rejections of claims 8-9 made under 35 U.S.C. §103(a) be withdrawn.

Applicants have added independent claim 11, claims 12-17 that depend from claim 11, and claims 18-20 that depend from independent claim 1. New claims 11-17 include distinctive features and elements such as, inter alia, “conductive carbon nanotubes forming an open cylinder in lining said trench” and “a trench conductor filling

said open cylinder of said carbon nanotubes”, that are not taught, suggested, or implied by prior art references of record, in particular by Roesner and Homma alone or in combination. Thus, claims 11-17 are patentable. Claims 18-20 depend from independent claim 1 and therefore are patentable for at least the same reasons as being discussed above with regard to claim 1.

Conclusion

In view of the preceding remarks, Applicants respectfully submit that all pending claims are now in condition for allowance. Favorable reconsideration and allowance of the claims are respectfully requested.

Applicants are paying a fee for filing the Request for Continued Examination. No other fees are believed to be due in connection with this paper. However, if there are any such other fees due, please charge any such fees to the deposit account No. 09-0458.

Respectfully submitted,

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